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(75) Inventors/Applicants (for US only): **FLETCHER, Leah, Diane** [US/US]; 25 Second Street, Geneseo, NY 14454 (US). **McMICHAEL, John, Calhoun** [US/US]; 186 Canterbury Road, Rochester, NY 14607 (US). **RUSSELL, David, Parrish** [US/US]; 240 North Pleasant Street, Canandaigua, NY 14424 (US). **ZAGURSKY, Robert, John** [US/US]; 569 Fox Hunt Drive, Victor, NY 14564 (US).

(74) Agents: **CALNAN, William, H. et al.**; Wyeth, Patent Law Department, Five Giralda Farms, Madison, NJ 07940-0874 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

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(54) Title: **ALLOIOCOCCUS OTITIDIS OPEN READING FRAMES (ORFs) ENCODING POLYPEPTIDE ANTIGENS, IMMUNOGENIC COMPOSITIONS AND USES THEREOF**

(57) Abstract: The present invention relates to the complete genomic sequence of Gram-positive bacterium, *Alloiococcus otitidis*. The present invention also relates to polynucleotide sequences encoding polypeptides of *Alloiococcus otitidis*. In particular, the invention relates to antigenic polypeptides encoded by the *Alloiococcus otitidis* open reading frames (ORFs), and to their use in immunogenic compositions, therapeutics, diagnostics and the like.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/36123

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07H 21/04

US CL : 536/23.7

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 536/23.7

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	STRATAGENE 1991 PRODUCT CATALOG, page 66 see random primer labeling kit.	1-11, 101-104,
X	EP 0786519 A2 (HUMAN GENOME SCIENCES, INC.) 30 July 1997, see entire document.	1-11, 57-62, 63-65, 82-87, 107
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Y		92
A	EP 0786519 A2 (HUMAN GENOME SCIENCES, INC.) 30 July 1997, see entire document.	15, 18, 27-29

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Further documents are listed in the continuation of Box C.

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See patent family annex.

<p>* Special categories of cited documents:</p>		<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p>	
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same parent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

24 June 2003 (24.06.2003)

Date of mailing of the international search report

16 OCT 2003

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/36123

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-11, 15, 18, 27, 28, 29, 57-65, 82-87, 92, 101-104, 107

Remark on Protest

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☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Groups 1-3325, claim(s) 1-31, 57-65, 82-87, 92, 101-104 and 107 (in part) drawn to separate polynucleotides and compositions as represented by the one of the odd numbered sequences from SEQ ID NO:1 to SEQ ID NO:6649.

Groups 3326-6650, claim(s) 32-56, 74-81, 88-91 and 93 (in part), drawn to to separate polypeptides and compositions as encoded by separate polynucleotides as represented by the one of the odd numbered sequences from SEQ ID NO:1 to SEQ ID NO:6649 or by one of the even numbered sequences from SEQ ID NO:2 to SEQ ID NO:6650.

Groups 6651-9975, claim(s) 66-73, 105 and 106 (in part), drawn to separate antibodies that bind polypeptides as encoded by separate polynucleotides as represented by the one of the odd numbered sequences from SEQ ID NO:1 to SEQ ID NO:6649 or by one of the even numbered sequences from SEQ ID NO:2 to SEQ ID NO:6650.

Groups 9975-13,300, claim(s) 94-96 (in part), drawn to separate methods of immunizing using materially separate polypeptides and compositions as encoded by separate polynucleotides as represented by the one of the odd numbered sequences from SEQ ID NO:1 to SEQ ID NO:6649 or by one of the even numbered sequences from SEQ ID NO:2 to SEQ ID NO:6650.

Group 13,300-16,625, claim 97 (in part), drawn to methods of detection by using separate probes from separate polynucleotides and compositions as represented by the one of the odd numbered sequences from SEQ ID NO:1 to SEQ ID NO:6649.

Group 16,626-19,950, claim 98 (in part), drawn to methods of detection by using separate primer pares from separate polynucleotides and compositions as represented by the one of the odd numbered sequences from SEQ ID NO:1 to SEQ ID NO:6649.

Group 19,951-23,275, claim 99 (in part), drawn to methods of detection using separate antibodies that bind materially separate polypeptides as encoded by separate polynucleotides as represented by the one of the odd numbered sequences from SEQ ID NO:1 to SEQ ID NO:6649 or by one of the even numbered sequences from SEQ ID NO:2 to SEQ ID NO:6650.

Group 23,276-26,600, claim 100 (in part), drawn to methods of detection using separate polypeptides as encoded by separate polynucleotides as represented by the one of the odd numbered sequences from SEQ ID NO:1 to SEQ ID NO:6649 or by one of the even numbered sequences from SEQ ID NO:2 to SEQ ID NO:6650.

The inventions listed as Groups 1-26,600 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: each of groups 1-26,600 are drawn to polynucleotides, polypeptides, antibodies, and methods of use thereof, that have different chemical structures as represented by their separate sequence identifiers as SEQ ID NOS:1-6650. Each sequence identifier possesses a different chemical structure and as such, each Group drawn to different sequence identifiers lack a corresponding technical feature with the other groups within the meaning of PCT Rule 13.2. Further, the technical feature of Group 1, with respect to a fragment of a polynucleotide is not special in that it does not define a feature that is novel over the art because the pNTPs and amino acids are sold by various chemical companies such as SIGMA. Therefore, each Group defines a separate technical feature.

INTERNATIONAL SEARCH REPORT

PCT/US02/36123

Continuation of B. FIELDS SEARCHED Item 3:

WEST, EMBASE, MEDLINE.

SEARCH TERMS: SEQ ID NO:1, VECTOR, HOST CELL, FUSION, RECOBINANT PRODUCTION, OITIDIS, ISOLATE, PURIFY, CLONE.

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